

XXI.—Notes on Chalcidites, and Descriptions of various new species. By FRANCIS WALKER, F.L.S.

Isosoma Maderæ, fem. *Æneo-atrum*, capite fulvo bimaculato, antennis pedibusque nigris, genibus tarsisque fulvis, alis subflavis.

Body black, convex, with a scarcely perceptible bronze tint, sparingly clothed with hairs: head and chest punctured: head transverse, subquadrate, somewhat rounded in front, shining, very finely punctured, having two very indistinct tawny spots behind, a little broader than the chest: eyes dark red: feelers black, somewhat slender, rather more than half the length of the body; their breadth increases but very slightly from the base to the tips; first joint long, bright tawny, slightly spindle-shaped; second long-obconical, piceous, tawny at the tip; third a little longer than the second; fourth shorter than the third; fifth shorter than the fourth; the two following joints also successively decreasing in length; club spindle-shaped, very little broader but more than twice the length of the seventh joint: chest nearly spindle-shaped, broader in front: fore-chest subquadrate, shining, very finely punctured, a little broader than long, well developed; fore-angles tawny and somewhat rounded: shield of the mid-chest shining, very finely and sparingly punctured, almost narrower than the fore-chest; sutures of the parapsides very strongly marked, converging till they reach the hind-border of the shield, where their distance from each other is a little less than one-third of its breadth; axillæ large, and nearly conniving on the back, being separated there from each other by less than one-sixth of the breadth of the chest; scutcheon conical, rather more thickly punctured than the fore-part of the body; it has a rim along its hind-border which joins the hind-scutcheon; the latter is very short: hind-chest well developed, declining, obconical, rugulose: petiole short, rugulose, nearly cylindrical, not half the length of the hind-chest: abdomen long-elliptical, smooth, shining, clothed with a few white hairs, compressed at the tip, a little shorter but hardly broader than the chest; metapodeon occupying about one-fourth of the back; octoon not half the length of the metapodeon; ennaton a little shorter than the octoon; decaton a little longer than the ennaton; each of the three following segments equalling the decaton in length: legs black; knees, feet, and tips of thighs, of hips and of shanks tawny; tips of four hinder feet piceous: wings with a slight yellow tinge; veins luteous; ulna much less than half the length of the humerus; radius shorter than the ulna; cubitus shorter than the radius; brand very small. Length of the body $1\frac{1}{2}$ line; of the wings $2\frac{1}{4}$ lines.

This and the twelve following species were found in the island of Madeira by Mr. Wollaston, to whose kindness I am indebted for the opportunity of examining them.

Isosoma minor.

Dicyclus Amage, mas. *Viridi-æneus*, abdomine purpureo, antennis nigris, pedibus piceo-fulvis, femoribus æneis, alis limpidis.

Head and chest convex, bronze, finely shagreened: head large,

much broader than the chest, green towards the mouth; jaws ferruginous; eyes and eyelets dark piceous; feelers black; first joint piceous, tawny at the base; chest nearly elliptical: fore-chest short, much rounded in front; its length not more than one-fourth of its breadth: shield of the mid-chest rather short; sutures of the parapsides very indistinct; axillæ parted by one-fourth of the breadth of the chest; scutcheon truncate-conical, rather large: hind-chest well developed, obconical, declining, brassy green, with a ridge along the middle and a rim on each side, where there are also a few white hairs: petiole short and very slender: abdomen flat, smooth, shining, purple, bright coppery green at the base, a little longer than broad; metapodeon occupying more than one-third of the back, its hind-border convex; octoon not half the length of the metapodeon; ennaton shorter than the octoon; decaton as long as the ennaton; the following segments shorter: hips and thighs brassy; trochanters and shanks piceous; knees and feet tawny, tips of the latter piceous; fore-shanks and fore-feet brown: wings colourless; veins pale brown; ulna about half the length of the humerus; radius a little longer than the ulna; cubitus shorter than the ulna, slightly curved; brand dark brown, of moderate size. Length of the body 1 line; of the wings 2 lines.

Dicyclus nigro-æneus.

Pachyneuron formosum.

Pteromalus Carinus, mas. *Æneo-viridis*, abdomine purpureo flavo maculato basi æneo-viridi, antennis nigris, pedibus flavis, metafemoribus fulvis, alis limpidis, proalis fusco maculatis.

Bright green, with a very slight brassy tint: head and chest convex, shining, finely shagreened: head a little broader than the chest; front vertical: eyes and eyelets red: feelers black, slender, subclavate, as long as the chest; first joint long, slender, tawny; second cup-shaped, piceous, tawny at the tip; third and fourth very short; fifth and the following joints to the tenth successively decreasing in length and increasing in breadth; club elliptical, rather broader than the tenth joint and a little more than twice its length: chest nearly elliptical: fore-chest short, narrower in front; its length less than one-fourth of its breadth: shield of the mid-chest broader than long; sutures of the parapsides very indistinct, approaching each other till they reach the hind-border, where they are separated by one-sixth of the breadth of the chest; axillæ rather large, separated by somewhat less than one-third of the breadth of the chest; scutcheon nearly conical, truncate in front, with a rim along its hind-border, a little more convex than the shield; hind-scutcheon visible but very short: hind-chest obconical, declining, with an indistinct suture along the middle and a rim on each side: petiole very short, not one-fourth of the length of the hind-chest: abdomen nearly conical, a little narrower and much shorter than the chest, depressed, smooth, shining, dark purple, with a large pale yellow spot near the base which is brassy green; metapodeon occupying about one-third of the back; octoon

and following segments of moderate and nearly equal size : legs yellow ; hips brassy green ; hind-thighs and tips of feet dull tawny : wings colourless, rather broad ; a large brown spot occupying most of the disc of each fore-wing ; veins tawny ; ulna rather more than half the length of the humerus ; radius a little longer than the ulna ; cubitus much shorter than the ulna ; brand large, piceous. Length of the body $\frac{3}{4}$ line ; of the wings $1\frac{1}{2}$ line.

Pteromalus Anaxis, mas. *Viridis, abdomine purpureo basi viridicupreo, antennis nigris, pedibus flavis, femoribus piceo-viridibus, alis limpidis.*

Head and chest convex, very finely shagreened, bright green : head large, broader than the chest, with a broad shallow furrow extending from the eyelets to the base of the feelers : eyes and eyelets piceous : jaws ferruginous : feelers black, filiform, as long as the head and the chest ; first joint long, slender, very slightly curved, tawny from the base to the middle and piceous thence to the tip ; second also piceous and shining ; third and fourth extremely minute ; the following from the fifth to the tenth successively decreasing in length ; club linear, pointed at the tip, a little more than twice the length of the tenth joint : chest nearly elliptical : fore-chest very short, its length hardly one-sixth of its breadth : shield of the mid-chest of moderate size, its disc rather flat ; sutures of the parapsides indistinct ; axillæ parted by one-fourth of the breadth of the chest ; scutcheon truncate-conical, more convex than the shield : hind-chest well developed, obconical, declining, with a ridge along the middle : petiole very short, coppery : abdomen long-elliptical, greenish coppery, smooth, shining, nearly flat, dark purple on the disc, very little shorter but much narrower than the chest ; metapodeon occupying nearly half of the back, bright green towards the base, where it is concave ; octoon not half the length of the metapodeon ; ennaton shorter than the octoon ; decaton as long as the octoon ; the following segments very short : sexual parts long, pale tawny : legs very bright yellow ; hips green ; thighs piceous tinged with green, which dark colour as usual prevails most in the hind-legs and least in the fore-legs ; fore-feet tawny ; four hinder feet brown, first joint yellow : wings colourless ; veins piceous ; humerus twice the length of the ulna ; radius as long as the ulna ; cubitus very nearly as long as the radius ; brand of moderate size. Length of the body 1 line ; of the wings 2 lines.

Pteromalus Scopas, mas. *Æneo-viridis, abdominis disco purpureo, antennis fuscis, pedibus fulvis, femoribus viridibus, tibiis fusco fasciatis, alis limpidis.*—Fem. *Abdominis disco cupreo, antennis piceis, tibiis piceis, tarsis flavis.*

Head and chest convex, finely shagreened : head green, a little broader than the chest : eyes and eyelets red : feelers brown, filiform, rather stout, a little shorter than the head and the chest ; first joint piceous, linear, very slightly curved, tawny at the base ; second also piceous and shining ; third and fourth extremely minute ; the follow-

ing from the fifth to the tenth successively but very slightly decreasing in length; club long-conical, a little more than twice the length of the tenth joint: chest oval, brassy green, rather narrower towards the hind part: fore-chest very short, its length not more than one-eighth of its breadth: shield of the mid-chest broad; sutures of the parapsides very indistinct; axillæ parted by full one-fourth of the breadth of the chest; scutcheon truncate-conical, rather long: hind-chest of moderate size, obconical, abruptly declining, nearly smooth, with a ridge along the middle and a rim on each side: petiole extremely short: abdomen spindle-shaped, flat, smooth, shining, green, dark purple on the disc, bright coppery green at the base, shorter and much narrower than the chest: metapodeon occupying near half the back; octoon not one-fourth of the length of the metapodeon; ennaton longer than the octoon; decaton a little shorter than the ennaton; the following segments very short: sexual parts long, tawny: legs tawny; hips and thighs green, tips of the latter yellow; trochanters piceous; a broad brown band across each of the four hinder thighs; four hinder feet pale tawny with piceous tips: wings colourless; veins tawny; humerus more than twice the length of the ulna; radius a little longer than the ulna; cubitus shorter than the radius; band small.

Fem. Head and chest green, with a slight brassy tinge: head bluish green behind, rather broader than the chest: feelers clavate, piceous, shorter than the head and chest; first joint green, tawny at the base; the joints from the fifth to the tenth successively increasing in breadth and decreasing in length; club short-conical, broader than the tenth joint and full twice its length: abdomen oval, a little broader but not longer than the chest; bright green with the disc bronze, slightly compressed at the tip, concave above, very deeply keeled beneath, where it forms an angle whence it rises to the tip, which is much elevated, metapodeon occupying less than one-fourth of the back, its hind-border convex; octoon not half the length of the metapodeon; each of the three following segments as long as the octoon; paratelum shorter; telum longer; these segments are of more equal length beneath, where two or three ventral segments are visible towards the base of the abdomen: legs yellow; hips and thighs green; tips of the latter yellow; trochanters dark tawny; fore-shanks and fore-feet tawny; four hinder shanks piceous with yellow tips; four hinder feet with piceous tips: veins of the wings pale tawny; band brown. Length of the body $1-1\frac{1}{2}$ line; of the wings $2\frac{1}{4}-2\frac{1}{2}$ lines.

Pteromalus Calamis, mas et fem. *Æneo-viridis*, abdomine *purpureo*, *antennis nigris*, *pedibus fulvis*, *femoribus mari piceis* fem. *obscuræ fulvis*, *alis limpidis*.

Body convex: head and chest extremely finely shagreened: head bluish green, rather large and thick, a little broader than the chest: eyes and eyelets piceous: feelers black, very slightly subclavate, nearly as long as the head and the chest; first joint long, slender, linear tawny; second long cup-shaped; third and fourth extremely minute;

the following joints from the fifth to the tenth nearly equal in length but slightly increasing in breadth; club long-conical, hardly broader than the tenth joint, but more than twice its length: chest nearly elliptical, brassy green: fore-chest rather short, its length about one-fourth of its breadth: shield of the mid-chest rather short; sutures of the parapsides very indistinct; axillæ large, parted by about one-sixth of the breadth of the chest; scutcheon conical, coppery, rather prominent; hind-scutcheon very short, but visible: hind-chest well developed, obconical, declining, with a ridge along the middle and a rim on each side: petiole very short: abdomen nearly round, smooth, shining, purple, about half the length of the chest; metapodeon blue with a copper tinge at the base; octoon and ennaton of moderate size; the following segments extremely short, hardly visible: sexual parts long, pale: legs tawny; hips green; thighs piceous; knees yellow; four hinder feet pale tawny with piceous tips: wings colourless; veins pale brown; ulna much shorter than the humerus, but more than half its length; radius much shorter than the ulna; cubitus a little shorter than the radius, and rather more than half the length of the ulna; brand very small.

Fem. Head and chest dull green: head very little broader than the chest: feelers subclavate, shorter than the head and chest; first joint tawny; second piceous; third and fourth tawny; the following joints from the fifth to the tenth successively decreasing in length and increasing in breadth; club elliptical, broader than the tenth joint and nearly thrice its length: scutcheon dull coppery; abdomen long obconical, smooth, shining, dull purple, as long and rather broader than the chest, keeled beneath, and having there an angle whose hinder line rises abruptly from the middle to the tip; metapodeon bright green, concave at the base, nearly one-fourth of the length of the abdomen; the following segments successively and slightly decreasing in length: legs tawny; hips green; thighs dark tawny; four hinder feet pale tawny with piceous tips. Length of the body $\frac{2}{3}$ -1 line; of the wings $1\frac{1}{4}$ - $1\frac{1}{2}$ line.

Allied to *Pt. hemipterus*, *apicalis*, and *conifer*.

Cerchysius Euphranor, fem. *Æneo-viridis*, abdomine cupreo apice purpureo, antennis nigris, pedibus fulvis, metapedum tibiis apice femoribusque piceis, alis limpidis.

Head nearly semicircular, convex in front, slightly concave behind, green, coarsely shagreened, hardly as broad as the chest: eyes and eyelets dark red: feelers subclavate, black, a little shorter than the body; first joint long, subclavate; second cup-shaped; the following joints successively increasing in breadth; club long-conical, broader than the eighth joint and much more than twice its length: chest short, elliptical, convex, finely shagreened: fore-chest extremely short, hardly visible above: shield of the mid-chest short and broad; axillæ meeting on the back; no traces of the sutures of the parapsides; scutcheon obconical, brassy, flat, more roughly shagreened than the shield; its fore-border forming an obtuse angle: hind-chest very short, smooth, shining, purplish black: abdomen oblanceolate,

coppery, smooth, shining, concave above, deeply keeled beneath, compressed at the tip which is bright purple, a little longer but very much narrower than the chest; metapodeon occupying full one-third of the back; octoon and following segments short: legs tawny; middle legs paler than the fore-legs and dilated as usual; tips of their feet brown; hind-legs piceous; their shanks tawny with piceous tips: wings narrow, nearly colourless except their tips, which are gray; veins piceous; ulna about one-third of the length of the humerus; radius much longer than the ulna; cubitus shorter than the ulna, and forming with the radius a more acute angle than occurs in *Encyrtus*; brand extremely small. Length of the body $\frac{1}{2}$ line; of the wings $1\frac{1}{4}$ line.

Eulophus Amempsinus.

Tetrastichus flavifrons, fem. Nigro-viridis, capite fulvo, abdomine nigro-purpureo, antennis fuscis, pedibus fulvis, metafemoribus piceis, alis limpidis.

Body smooth, shining: head tawny, broad, very short, impressed between the eyes, bright yellow and somewhat dilated about the region of the mouth, a little broader than the chest: eyes and eyelets bright red, the former prominent: feelers pale brown, subclavate, rather stout, more than half the length of the body; first joint long, dilated; second tawny, cup-shaped; the following joints from the third to the sixth successively increasing in breadth and decreasing in length; club long-elliptical, broader than the sixth joint and more than twice its length: chest short-elliptical, convex, greenish black, rather broad: fore-chest very short, its length not more than one-tenth of its breadth: shield of the mid-chest large; sutures of the parapsides very distinct and strongly marked, converging towards the hind-border of the shield; axillæ parted by one-third of the breadth of the chest; scutcheon short, obconical, with two parallel sutures along its back: hind-chest short and broad, hardly narrower behind: petiole extremely short, so that the abdomen appears sessile: abdomen short-elliptical, flat, purplish black, a little shorter and narrower than the chest; metapodeon and three following segments of moderate length; the rest very short: oviduct pale tawny: legs pale tawny; tips of feet brown; hind-thighs mostly piceous: wings broad, colourless, pubescent, ciliated; veins pale tawny; ulna much longer than the humerus; radius shorter than the ulna; cubitus not one-third of the length of the radius; brand extremely small. Length of the body $\frac{1}{2}$ line; of the wings $1\frac{1}{3}$ line.

Tetrastichus Silius, fem. Nigro-æneus, antennis fulvis basi piceis, pedibus fulvis, femoribus piceis, alis limpidis.

Body smooth, shining: head black, broad, very short, impressed between the eyes, very little broader than the chest: eyes and eyelets bright red, the former prominent: jaws ferruginous: feelers dull tawny, subclavate, rather more than half the length of the body; first joint piceous; second cup-shaped; the following joints from the

third to the sixth successively increasing in breadth and decreasing in length; club long-elliptical, broader than the sixth joint and more than twice its length: chest short-elliptical, convex, brassy, rather broad: fore-chest very short; its length not more than one-tenth of its breadth: shield of the mid-chest large; sutures of the parapsides very distinct and strongly marked; axillæ parted by one-third of the breadth of the chest; scutcheon short, obconical, with two parallel sutures along its back: hind-chest short, broad, obconical, declining: petiole extremely short: abdomen long-elliptical, flat, bronze-black, slightly concave above, slightly keeled beneath, shorter and much narrower than the chest; metapodeon and three following segments of moderate length; the rest very short: legs pale tawny; tips of feet brown; thighs mostly piceous: wings broad, colourless, pubescent, ciliated; veins pale tawny; ulna much longer than the humerus; radius shorter than the ulna; cubitus not one-third of the length of the radius; brand extremely small. Length of the body $\frac{1}{3}$ line; of the wings $1\frac{1}{4}$ line.

Var. β. Body black.

XXII.—*Some Account of the storm of January in Bedfordshire.*

By JOHN MARTIN, Esq.

To the Editors of the Annals of Natural History.

GENTLEMEN,

Froxfield, Feb. 14th, 1849.

A REMARKABLE storm took place on Sunday the 14th of January 1849. A few particulars relating to it may be found interesting to those who attend to meteorological pursuits.

The information with respect to it, in this communication, is chiefly confined to what occurred in the park of the Duke of Bedford, and is obtained from His Grace's land steward, Thomas Bennett, Esq.

The hurricane, attended by a heavy fall of rain, passed over Woburn Park about half-past two o'clock P.M. The direction it took was from the north-west to south-east; its range did not appear to extend more than a quarter of a mile. The writer of this, who resides at the edge of the park, scarcely half a mile from the principal scene of destruction, was not aware of what was going on so close to him. The sun was shining a few minutes previously, and although the wind blew rather strongly, yet not perceptibly stronger than it had been blowing for some days.

Its greatest violence did not continue more than a quarter of an hour. As far as information has been obtained as to its appearance in this vicinity, it was first observed at Fenny Stratford and Bow Brickhill on the borders of Bedfordshire. At these places several trees were thrown down as well as many old buildings. On Bow Brickhill Heath, where there is a large fir